

Claims:

Sub B1 > 5 1. A cabin structure (1) for a working machine, comprising:

10 10 – a cabin element (4) which is equipped with a bottom part (3) and which is substantially stationary in relation to the working machine (2),

15 15 – working means (5, 6) placed inside the cabin element (4), comprising a seat (5) for the operator (K) of the working machine as well as display and control means (6) for controlling the operations of the working machine,

20 20 – a movable working base (9), on which the working means (5, 6) are placed, and

25 25 – a control mechanism (7) for levelling the working position of the operator (K), comprising first and second means (7a, 7b) for tilting the working base (9) in the longitudinal direction (XZ) and the transverse direction (YZ) of the working machine (2), and third means (7c) for rotating the working base around a vertical axis (Z) of rotation,

30 30 **characterized** in that

35 35 – the movements of the first and second means (7a, 7b) are arranged to take place around a joint movement centre (LKP) in such a way that the movement centre (LKP) is placed on a vertical axis (Z) of rotation and also above the working base (9), and

30 – the working base (9) is placed above the bottom part (3), and the control mechanism (7), in turn, is placed between the working base (9) and the bottom part (3) in such a way that the first and second means (7a, 7b) are placed underneath the third means (7c).

35 2. A cabin structure according to claim 1, **charact riz d** in that the working base (9) is circular and is arranged touchingly at the inner

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surface (3a) of the bottom part (3), whose shape is a spherical surface at least on that range of height dimension in which the outer edge of the working base (9) moves during respective movements of the working base (9) and the frame of the working machine (2), wherein the centre 5 (KK) of the spherical shape is placed in said movement centre (LKP).

3. A cabin structure according to claim 2, **characterized** in that the diameter of the working base (9) is selected so that the working base (9) is placed substantially at the upper edge (3b) of the spherical shape formed by the inner surface (3a), touching the spherical shape at the 10 whole length of its circumference.

4. A cabin structure according to claim 2 or 3, **characterized** in that the outer edge of the working base (9) is provided with a downwards 15 extending annular collar part (10a) which has at least an outer surface which is spherical and which is placed on the bottom part (3).

5. A cabin structure according to any of the claims 1 to 4, **characterized** in that the movement centre (LKP) is placed above the seat part 20 (5a) of the seat (5), preferably substantially at the level of the hip of the operator (K).

6. A cabin structure according to any of the claims 1 to 5, **characterized** in that the lower one of the first and second means (7a, 7b) is 25 connected to the bottom part (3), and the third means (7c) are connected to the working base (9).

7. A cabin structure according to any of the claims 1 to 6, **characterized** in that the working base (9) comprises an elevated part (9a) 30 underneath the seat part (5a) of the seat (5), wherein at least the third means (7c) are placed in the space formed in connection with the elevated part (5a).

8. A cabin structure according to any of the claims 1 to 7, **characterized** in that a cover arrangement (10a, 10b), separate from the control 35 mechanism (7), is placed at the point of linkage between the bottom

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part (3) and the working base (9) to connect the working base (9) to the cabin element (4) during their respective movements, and that the first part (10a) of the cover arrangement (10a, 10b) is placed at the edge of the working base (9), to extend downwards, and the second (10b) part 5 consists of the inner edge (3a) of the bottom part (3).

9. A cabin structure according to claim 8, **characterized** in that the first part (10a) of the cover arrangement (10a, 10b) consists of the collar part of the working base (9), which has at least an outer surface with 10 a spherical shape and which is placed on the bottom part (3).

10. A cabin structure according to any of the claims 1 to 9, **characterized** in that the bottom part (3) is a sheet-like form piece which is connected at its upper edge to a substantially horizontal collar part (4a) 15 formed at the lower edge of the cabin element (4).

11. A cabin structure according to any of the claims 1 to 10, **characterized** in that the bottom part (3) is designed to have a downwards reducing horizontal cross-section, for example in such a way that the 20 whole bottom part (3) is, at least on the side of the inner surface (3a), substantially spherical.

12. A cabin structure according to any of the claims 1 to 11, **characterized** in that the outer surface of the bottom part (3) of the cabin element (4) comprises connecting means (8) for connecting the cabin 25 structure (1) to the frame of the working machine (2).

13. A cabin structure (1) for a working machine, comprising:

30 – a cabin element (4) which is equipped with a bottom part (3) and which is substantially stationary in relation to the working machine (2),
– working means (5, 6) placed inside the cabin element (4), comprising a seat (5) for the operator (K) of the working machine as well as display and control means (6) for controlling the operations of the working machine,
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5 - a movable working base (9), on which the working means (5, 6) are placed, and
 - a control mechanism (7) for levelling the working position of the operator (K), comprising first and second means (7a, 7b) for tilting the working base (9) in the longitudinal direction (XZ) and the transverse direction (YZ) of the working machine (2), and third means (7c) for rotating the working base around a vertical axis (Z) of rotation,

10 **characterized** in that

15 - the movements of the first and second means (7a, 7b) are arranged to take place around a joint movement centre (LKP) in such a way that the movement centre (LKP) is placed on a vertical axis (Z) of rotation and also above the working base (9),
 - the working base (9) is placed above the bottom part (3), and the control mechanism (7), in turn, is placed between the working base (9) and the bottom part (3), and

20 - the working base (9) is circular and is arranged touchingly at the inner surface (3a) of the bottom part (3), whose shape is a spherical surface at least on that range of height dimension in which the outer edge of the working base (9) moves during levelling movements of the working base (9), wherein the centre (KK) of the spherical shape is placed in said movement centre (LKP).

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30 14. A cabin structure according to claim 13, **characterized** in that the diameter of the working base (9) is selected so that the working base (9) is placed substantially at the upper edge (3b) of the spherical shape formed by the inner surface (3a), touching the spherical shape at the whole length of its circumference.

35 15. A cabin structure according to claim 13 or 14, **characterized** in that the outer edge of the working base (9) is provided with a downwards extending annular collar part (10a) which has at least an outer

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~~surface which is spherical and which is placed on top of the bottom part (3).~~

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